WORKSHEET TO DETERMINE SIZE OF DEAD BIRD COMPOSTER/INCINERATOR

B = Number of birds per confinement cycle. (No.)

M = Anticipated mortality per confinement cycle. (Decimal)
(NOTE: Mortality may range from 2% to 25%. Use actual data or refer to Table 3 in Section III of the Waste Utilization and Facility Design Workbook.)

$\mathbf{W_B}$ = Weight of birds at maturity. (lbs.) (Ex.: 4.2 lbs. for broilers)

T = Typical length of confinement cycle. (Days) (Ex.: 42 days for broilers)

$\mathbf{W_T}$ = Weight of daily loss for design. (lbs./day)

B	x	**M**	x	$\mathbf{W_B}$	/	**T**	=	$\mathbf{W_T}$	
_____	x	_____	x	_____	/	_____	=	_____	lbs/day

For an incinerator, the capacity should be the minimum size which will meet W_T.
For Stage 1 of a 2-stage composter, allow 2.5 cf composter volume per lb. of weight loss per day.
For Single-stage composter, allow 3.75 cf of composter volume per lb. weight loss per day.
For flock life over 75 days, disregard formula, design bin size and number to provide primary storage volume for 30 days of mortality.

STAGE 1:

$\mathbf{V_1}$ = Volume of stage one bins:

2.5 (or 3.75)	x	$\mathbf{W_T}$	=	$\mathbf{V_1}$	
_____	x	_____	=	_____	cf

Dimensions of Composter Bins:
(Single-stage composting bins shall have dimensions of 4' x 4' x 4'. Bins must have 0.5 to 1.0 inch spaces between each horizontal board.)

h = height of bin (4 to 5 ft.) = _____ ft.

$\mathbf{y_1}$ = depth of bin (varies) = _____ ft.

$\mathbf{y_2}$ = width (front) of bin (8 to 10 ft.) = _____ ft.

$\mathbf{V_B}$ = Individual bin volume:

h	x	$\mathbf{y_1}$	x	$\mathbf{y_2}$	=	$\mathbf{V_B}$	
_____	x	_____	x	_____	=	_____	cf

No. of bins:

$\mathbf{V_1}$	/	$\mathbf{V_B}$	=		
_____	/	_____	=	_____	bins

Round to nearest whole number: use _____ bins in Stage 1.

STAGE 2:

Volume shall equal or exceed $\mathbf{V_1}$. (Volume should be **2 x** $\mathbf{V_1}$ in north Alabama for winter storage.)
In sizing width of bin(s), consider width of front-end loader.

Number and size of Stage 2 bins:_____